

SECTION A.
TECHNICAL NOTES

INTRODUCTION

This report is based on final data from two Federal surveys. The first is the U.S. Department of Education's Completions Survey conducted annually by the National Center for Education Statistics (NCES) as part of the Integrated Postsecondary Education Data System (IPEDS). The second is the Survey of Earned Doctorates, conducted annually for the National Science Foundation (NSF) and four other Federal agencies. Each source is described in more detail in the following sections.

Data from the Completions Survey were used to report the number of bachelor's and master's degrees. The data on doctoral degrees in this report were derived from the Survey of Earned Doctorates, which surveyed all individuals earning research doctorates, rather than from the Completions Survey, which surveyed the institutions awarding the doctorates. The Survey of Earned Doctorate data were preferred because the data provided by individuals are more specific with respect to the field of specialization and are less likely to contain errors in data reporting and data entry than are the aggregate data provided by institutions. Furthermore, doctorate data provide 100 percent coverage for data by field and sex of individual recipients, whereas institutional data are subject to imputation for nonresponse. For a comparison of reporting on doctoral degrees in the Completions Survey and the Survey of Earned Doctorates, see National Science Foundation, *Science and Engineering Doctorates: 1960–91*, NSF 93-301, Detailed Statistical Tables (Washington, DC, 1993).

In this report, the racial and ethnic categories among U.S. citizens (and permanent resident aliens), who were degree recipients during the 1989–97 period, are charted and tabulated.

The following five racial/ethnic categories were the standard in Federal Government surveys of institutions in this reporting period:

- Black, non-Hispanic
- American Indian or Alaskan Native
- Asian or Pacific Islander
- Hispanic
- White, non-Hispanic

Persons who are U.S. citizens or foreign citizens admitted for permanent residence are classified into the above categories. The ethnic category of Hispanic took precedence over the racial categories in the data

collection. In addition, nonresident aliens, i.e., those admitted to the United States for temporary residence, are separately identified as a sixth category in the survey. The nonresident aliens are not to be reported in the aforementioned racial/ethnic groups.

The definitions for the racial/ethnic categories used in the survey are as follows:

Nonresident alien—A person who is not a citizen or national of the United States and who is in this country on a temporary basis and does not have the right to remain indefinitely. Resident aliens who are not citizens of the United States and who have been lawfully admitted for permanent residence (and who hold alien registration receipt cards—Form I-551/155) are to be reported in the appropriate racial/ethnic categories along with U.S. citizens.

Black, Non-Hispanic—A person having origins in any of the black racial groups of Africa (except those of Hispanic origin).

American Indian or Alaskan Native—A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.

Asian or Pacific Islander—A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands. These areas include, for example, China, Japan, Korea, the Philippine Islands, and Samoa.

Hispanic—A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

White, Non-Hispanic—A person having origins in any of the original peoples of Europe, North Africa, or the Middle East (except those of Hispanic origin).

BACHELOR'S AND MASTER'S DEGREE DATA

Bachelor's and master's degree data presented in this report were derived from a survey conducted by NCES—the Completions Survey.

This survey requested data on the number of associate's, bachelor's, master's, doctoral, and first-

professional degrees conferred by institutions of higher education. The data were requested according to sex of recipient and field of study for each degree level. Data on the race/ethnicity of degree recipients were collected biennially by NCES for the Office of Civil Rights from 1987 through 1989 and annually since then. A limitation has been that data were collected only at the broad field level¹ (until 1995) according to the Federal racial/ethnic designations of degree recipients. This has affected one field primarily—Social Sciences. Social Sciences includes History in this report, for bachelor's and master's degree data. History comprises 20-23 percent of the Social Sciences total.

The surveys were mailed to all accredited universities and colleges in the United States, including the U.S. territories, for completion by the institution. Followup for nonresponse and editing was conducted by letter and telephone. The overall response rate for institutions of higher education ranged between 94 and 97 percent between 1989 and 1997.

For the bachelor's and master's degree data, the manner of collecting racial and ethnic data is left to the discretion of the institution, provided that the system established results in reasonably accurate data. The information is gathered by NCES for the Office of Civil Rights, U.S. Department of Education, in compliance with title I of the Civil Rights Act of 1964 and title IX of the Education Amendments of 1972.

For institutions that did not report any racial/ethnic data by field, NCES imputed data on the basis of an earlier response for each institution, if available. Table A-1 indicates percentage of 1997 degree recipients in each race/ethnicity category for which race/ethnicity was imputed.

In examining data on degrees awarded to minorities, it must be noted that 1 to 5 percent of all S&E degrees

awarded in 1989–97 were reported as awarded to individuals whose race/ethnicity was unknown. This unknown category could affect trends and observable changes in the number and share of awards received by minority students, particularly if there are shifts from year to year in the number of degree recipients with unknown race/ethnicity. As tables 1–2 in section B indicate, the share of degrees awarded to individuals whose race/ethnicity was unknown varied somewhat by degree level.

This NSF report differs from those published by NCES in that data for the U.S. territories, and the commonwealth of Puerto Rico are included, whereas NCES excludes them from most of its published reports. This affects the data for Hispanics primarily, since institutions in Puerto Rico are included.

DOCTORAL DEGREE DATA

In the Survey of Earned Doctorates, information is collected during the period of July 1 of one year to June 30 of the next from all persons who have fulfilled the requirements for a research doctorate. The survey is funded jointly by NSF and four other agencies: the U.S. Department of Education, the National Institutes of Health, the National Endowment for the Humanities, and the U.S. Department of Agriculture. The survey forms were sent to all accredited doctorate-granting institutions for distribution by the graduate deans to all research doctorate recipients as they complete degree requirements. Information collected in the survey comprises demographic data, such as the student's sex, citizenship, ethnicity, and racial group; education history, including field of degrees; sources of graduate student support; employment status during the year preceding receipt of the doctorate; postgraduation plans; and background on parents' education. Approximately 92–95 percent of the doctorate recipients complete and return the survey forms. For nonrespondents, commencement programs constituted a source of skeletal information that was added to the file. These variables were sex, field of study, institution, year of doctorate, and educational background. Nonresponse for race/ethnicity is not imputed for individuals, but the percent unknown has been low (around 1-2 percent of those with known citizenship; citizenship was unknown for 2-8 percent of degree recipients). Since changes in non-response do exist, small changes in numbers should be interpreted with caution, especially for 1997. Data are updated annually from completed survey forms submitted belatedly by previous nonrespondents, so numbers may change slightly in the future updates.

Table A-1. Percent of bachelor's and master's degree recipients imputed, by race/ethnicity: 1997

Race/ethnicity	Bachelor's	Master's
White.....	0.6%	1.2%
Black.....	0.5	0.8
Hispanic.....	0.9	1.8
Asian or Pacific Islander.....	1.4	3.0
American Indian or Alaskan Native....	0.4	1.6
Nonresident alien.....	2.6	3.3
Unknown.....	1.1	4.7

SOURCE: NCES, IPEDS Completions file, 1997

¹Broad field level refers to the 2-digit program levels in U.S. Department of Education, National Center for Education Statistics, *Classification of Instructional Programs* (Washington, DC: GPO, 1991).